

Remarks/Arguments

Reconsideration of this application is requested.

Claim Status

Claims 1-20 are pending. Claims 1, 2, 13-15 and 20 are amended.

Claim Rejections – 35 USC 102

Claims 1-20 are pending. Claims 1, 5-8, 14 and 18-20 are rejected under 35 USC 102(b) as anticipated by Iiyama (US 6,489,883). In response, independent claims 1, 14 and 20 are amended to clearly distinguish over Iiyama. Claim 1, for example, is amended to recite:

...wherein the means for charging and discharging includes a capacitor that stores a charge according to the rectified voltage and a resistor through which the capacitor supplies a discharge voltage to the secondary battery so as to charge the secondary battery...

Claims 14 and 20 are amended in like fashion.

Iiyama discloses a non-contact data carrier having a battery, an electric-supply circuit for rectifying a received carrier signal and generating power, and an electric-supply switching circuit for comparing the voltage of the battery and the voltage generated by the electric-supply circuit and selecting either one of the voltages. When the battery can supply power, long-distance communication can be performed by supplying power from the battery. In case of battery exhaustion, power is supplied from the electric-supply circuit, which receives a stronger carrier signal by using the non-contact IC card in the proximity of a question unit and rectifies the carrier signal, so that the function of the non-contact data carrier is maintained. See Iiyama, abstract and col. 4, lines 10-17.

In reference to claim 1, the Action asserts that Iiyama discloses, in FIG. 1, an electronic circuit for a contactless tag comprising:

a rectifier 2 (col. 6, lines 4-6) connected to a transmitter/receiver 1 having an antenna coil (col. 6, lines 2-4) to generate a rectified voltage;

a battery 29 (col. 6, lines 9-11); and

means for being charged 4 according to the rectified voltage (col. 6, lines 12-15) and for discharging the secondary battery (col. 6, lines 38-41).

In reference to claim 2, the Action asserts that Iiyama discloses, in FIG. 2, that the means for charging and discharging comprises:

a capacitor (FIG. 2, capacitor connected to comparator 23 in parallel with rectifier 2) that stores a charge according to the rectified voltage (from rectifier 2 via the diode interposed therebetween); and

a resistor 22 through which the capacitor supplies a discharge voltage to the secondary battery 29 so as to charge the secondary battery 29 (col. 8, lines 1-6).

However, in col. 7, lines 61-67, Iiyama discloses that the carrier signal detection circuit 3 of FIG. 1 comprises a low-power-consumption comparator 23, the switching circuit 8 of FIG. 1 comprises a FET (field effect transistor) 21, and the electric-supply switching circuit 9 comprises a diode 28. Iiyama further discloses that the voltage of the signal rectified by the rectifier 2 and the voltage from the battery 29 serve as inputs to the two input terminals of the comparator 23. As shown in FIG. 2, battery 29 is directly connected to the positive terminal of the comparator 23 via resistor 22, and rectifier 2 is directly connected to the negative terminal of the comparator 23 via a diode. Moreover, a capacitor is connected to the negative input of comparator 23 in parallel with rectifier 2, and another capacitor is connected to main circuit unit 13 in parallel with rectifier 2. Diode 28 prevents discharge voltage from flowing back towards transistor 21. Therefore, there exists no capacitor that supplies any discharge voltage to battery 29 so as to charge

battery 29. In fact, battery 29 only supplies voltage to the positive terminal of comparator 23 and nothing else.

Moreover, according to Iiyama, the electric-supply switching circuit 9 (diode 28) compares the value of the voltage of battery 29 supplied by switching circuit 8 (transistor 21) and the value of the voltage supplied from the electric-supply circuit 4 (capacitor connected to negative terminal of comparator 23 in parallel with rectifier 2). When the voltage applied from battery 29 is higher than the voltage supplied from electric-supply circuit 4, power is supplied from battery 29 to the main circuit unit 13. See Iiyama, col. 6, lines 47-57 and col. 7, lines 61-67. Clearly, Iiyama teaches that battery 29 only supplies voltage and is never charged or recharged. In fact, according to Iiyama, when the power storage of battery 29 decreases and the voltage lowers, there is a possibility that the door locking operation or unlocking operation cannot be performed. According to Iiyama's abstract, in case of battery exhaustion, power is supplied from the electric-supply circuit 4 to maintain function. Iiyama never addresses the idea of charging or recharging battery 29 to avoid draining the voltage of battery 29, because Iiyama is not concerned with draining battery power. Accordingly, Iiyama fails to teach or suggest that the rectified voltage can be used to charge or recharge battery 29.

In contrast, applicant's claims 2 and 15, which are incorporate into claims 1 and 14, recite that the means for charging and discharging comprises a capacitor that stores a charge according to the rectified voltage and a resistor through which the capacitor supplies a discharge voltage to the secondary battery so as to charge the secondary battery. Claim 20 is amended to include a similar recitation. Since this feature is not disclosed by Iiyama, claims 1, 14 and 20 are not anticipated by Iiyama. The rejections under 35 USC 102 should be withdrawn.

Applicant notes that claims 2 and 15 are rejected as obvious over Graham (US 6,424,125). However, Graham is cited merely to suggest that the use of a time constant resistor is obvious. Graham does not remedy the deficiencies of Iiyama

because Graham does not disclose or suggest the use of a battery nor the operation of charging or discharging a battery.

Claim Rejections – 35 USC 103

Claims 10 and 11 are rejected under 35 USC 103(a) as obvious over Iiyama. Claims 2 and 15 are rejected as obvious over Iiyama in view of Graham (US 6,424,125). Claim 9 is rejected as obvious over Iiyama in view of Walton (US 4,384,288). Claims 12 and 13 are rejected as obvious over Iiyama in view of Eberhardt (US 6,404,339). Claims 3, 4, 16 and 17 are rejected as obvious over Iiyama in view of Graham and Busser (US 6,011,488).


Claims 2-4, 9-13 and 15-17 depend from claims 1 and 14, which are amended as discussed above to distinguish over Iiyama. Graham, cited against claims 2 and 15, is discussed above and does not remedy the deficiencies of Iiyama. Walton, Eberhardt and Busser are similarly deficient. Therefore, claims 2-4, 9-13 and 15-17 are allowable for at least the same reasons as set forth for claims 1, 14 and 20. The rejections under 35 USC 103 should be withdrawn.

Conclusion

This application is now believed to be in condition for allowance. The examiner is invited to telephone the undersigned to resolve any issues that remain after entry of this amendment. Any fees due with this response may be charged to our Deposit Account No. 50-1314.

Respectfully submitted,
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